UNITED STATES PATENT AND TRADEMARK OFFICE

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10/051,093	01/18/2002	Santosh C. Lolayekar	E003 - 1003US0	3414

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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. ·

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Amendment filed on 3/5/2007*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-63* is/are pending in the application.

    4a) Of the above claim(s) *31-43 and 54-63* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-30 and 44-53* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *1/18/02*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the applications

serial numbers on page 1, lines 20-40 must be filled in the blanks .

Appropriate correction is required.

Claim Objections

Claim 1 is objected to because of the following informalities: "the switch" on line 3 is

suggested to be amended to "said storage switch" to ensure that "the switch" is referred to "a

storage switch" . Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1, 4, 5, 7, 13, 16, 20, 24, 44 are rejected under 35 USC 103(a) as being

unpatentable over Mahajan et al. (US Pat. 6,804,236 B1) in view of Eberle et al. (US pat.

6,975,626 B1).

Note, the specification defines, in page 28, non-data packet as control traffic.

In claims 1, 4, 5, 7, 13, 16, 20, 24, 44, Mahajan et al. discloses a method for use by a

storage switch (network switch 300; fig.2) in a storage network (computer network 200; fig.2)

(col.8, lines 17-22), comprising:

receiving a plurality of packets by the switch (col.8, lines 60-67; receiving at the network

switch 300 message packets), wherein the plurality of packets are detected as non-data packets

and data packets (network switch 300 detects and processes different specific types of control

messages and data messages; the control messsage is a querry message, see col.12, lines 57-67) (

see col.5, lines 1-5 & Abstract). The switch 300 determines whether the message is a control

message and forwards the determined control message to a network mangement processor (see

col.16, lines 5-15; classifying non-data packet and communicating the non-data packet to a first

device) and communicating the data packet to a second device (forwarding data packet to bridge

forwarding; see abstract).   Mahajan et al. does not disclose said steps above are performed

without buffering.

Note, the claim requires the packet processing is performed by the switch without

buffering. Eberle et al. discloses a buferless switch 500 (fig.5) transmits and receives packets

from sending node 310 to receiving node 320 (col.2, lines 45-55 and abstract). The bufferless

switch 500 provides no bufferring to packets (see col.11, lines 55-60 and col.17, lines 10-15).

Therefore, it would have been obvious to apply the buferless switch in place of the network 300

of Mahajan et al. to reduce latency as being suggested by Eberle in col.3, lines 15-30.

Claims 2, 3, 6, 8, 9, 10, 11, 14, 15, 22, 23, 17, 18, 19, 25, 26, 27, 29, 30, 45, 46, 47, 48,

49, 51, 52, 53 are rejected under 35 USC 103(a) as being unpatentable over Mahajan et al. (US

Pat. 6,804,236 B1) in view of Eberle et al. (US pat. 6,975,626 B1) and further in view Wilford (

pat. 6687247 B1).

In claims 2, 3, 10, 17, 19, 25, 44, 50 Mahajan does not disclose read, write commands.

Wilford et al. discloses data packets forms a Read command (col.37, col.65 to col.38, line 40;

reading a request from a queue); write command (write cells into DRAM; col.31, lines 35-40;

fig.12).

In claims 8, 26, 27, 45, 46, 51 and 52, Mahajan does not disclose line card. Wilford et al.

discloses the second device is on the linecard (see fig.1, fabric interface 170 on linecard 110;

col.6, lines 5-10); or external to the linecard (fig.1, fabric 120 external to linecard 110).

In claims 14, 22, 30, Wilford et al. discloses the method in claim 1 performed at wire

speed (see abstract, processing and routing packets at wire speed).

In claim 11, 48, Wilford et al. discloses utilizing a local header for the packet, wherein

the local header includes information indicating if the packet is a data packet or a non-data

packet (see fig.3, col.7, lines 5-25; FIFO controller 310 separates header from packets and

forwards the headers to lookuop controller 320 to determine routing information, Further from

inbound rate limiter 230, packets are checked as ether normal packets or control information (

see col.8, lines 25-40).

In claim 6, Wilford et al. discloses second device is a packet processing unit (dequeue

420; see fig.4, col.9, lines 35-40).

In claims 15, 23, 29 and 49, Wilford et al. discloses the methof of claim 1 performed by a

storage processor in the switch (control element 130; see fig.2).

In claims 9, 18, 47 and 53, Wilford et al. discloses data packets are packets for established connection that are for a recognized protocol (data packets are routed at a wire speed to destination based on QOS and received at a SONET interface; col.4, lines 60-65, therefore, the recognized protocol is SONET or SDH) and data moving packets (routing data packets).

Claims 12, 21 and 28 are rejected under 35 USC 103(a) as being unpatenatble over Mahajan et al. (US Pat. 6,804,236 B1) in view of Eberle et al. (US pat. 6,975,626 B1) in view Wilford (pat. 6687247 B1), and further in view of Grosner et al. (US Pat. 7,089,293 B2).

In claims 12, 21 and 28, Wilford et al. does not disclose processing data packets in accordance with a virtualization function. Grosner et al. discloses, in fig.1, a storage network 100. The storage networks performs virtualization function 508 for request packets (see fig.5; col.6, lines 35-45). Therefore, it would have been obvious to use the virtualization function in Mahajan to process packets. The motivation is to provide physical resource, translate protocols.

Response to Arguments

Applicant's arguments with respect to claims 1-30 and 44-53 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Messenger (US pat. 7,170;891 B2) ;

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Thursday from 8:30 to 4:30. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild , can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen

HANH NGUYEN
PRIMARY EXAMINER